since KG-13's are more

A. WIRE ENGINEERING SECTION

1. Langley Signal Center 5/10 Year Planning - The proposed signal center layout problems may improve since the KW-26 area should not expand much beyond the present level ~~due to lack~~ of additional KW-26 units. The TSB crew is continuing to work toward the desired "red" and "black" frame room facilities.

2. CIFAX

a. The two auto-sync prototype units were delivered but are far more complicated than required. They will be evaluated and a decision made regarding their use.

b. Alarm remotes for use at each of our present terminals were completed and the OCI unit installed by TSB. Two other units will be installed in the near future.

3. KY-3 Call Director System - Due to unavoidable circumstances, the pre-production model delivery will be delayed to September 1966. ← Received on 12 Sept.

4. ARLS - The physical rack configurations were reviewed and revised. The system will consist of a logic rack, operator console, and seven reperforator consoles. The preliminary programming specifications were reviewed and rejected. A new version of the specification will be available in the next reporting period. This project is on schedule. and Looking Good!

5. MAX-II - Numerous conversations were held with [redacted] 25X1A5a
25X1A5 [redacted]' desire to change from two to four processors for the MAX systems. An amendment to the contract is being negotiated to allow this change. Despite immediate problems this project is still on schedule.

6. COINS - No change in status.

7. KG-13/~~Hi Speed~~ DATA Systems — a Real odd-ball for OCS.

a. The Telco cannot supply a data set interface at the odd bit rate of 134.89, thus it will be necessary to utilize the IBM 1912 model 48 unit between our crypto and the Telco.

b. A new requirement for a card-to-card system has developed and will be checked out.

c. State Department has asked that a 375 wpm circuit be established with them by 15 November. This would be a

simplex circuit with the transmitter being States new Automatic Terminal Switch. Discussions are being held with State to obtain technical and operational details.

8. Station Clock - The feasibility study on a station clock has produced negative conclusions and will not be pursued further.

9. Data Phone System - The design and fabrication of a Data Phone system is nearly complete and should be ready for installation and testing early next month. This system will present simulated KY-3 dialing and ringing functions to the KY-3 (758-C) switch to connect the users, and then allow transmission of data over this line via a Rixon SEBIT 36.

10. KY-3/NSA Gray Phone Interconnection - Final interconnection specifications are being written and will be submitted to NSA and [redacted] Company for their comments. 25X1A5a1

11. High Density R-100 Unit - Procurement action is still underway and no contract has been let.

12. Selector Magnet Adaptor Modification Kit

a. Technical Bulletin No. 142-1 is being forwarded to the field and contains a complete parts breakdown of the selector magnet adaptor modification kit.

b. M-28 ASR Modification - A stunt box modification is being designed for use with a message tape and a program tape read out from a dual T.D. mounted in the ASR. This will provide a direct read out of the "Elephant-Counter" and will provide the base operator with a page copy of the resultant output.

c. A timing advance system called "Preswitch" was designed and fabricated for use with Teletype transmitter-distributor clutch magnet circuits. It provides a variable advance clutch armature release which is necessary in Teletype systems where timing is very critical.

13. New KW-7 Safe - Class 5 - A prototype CP-12 is being installed in this safe for OC-E approval. See item #21 for further information regarding the CP-12.

14. CSR-4 - No change in status.

15. R20 ( ) Keyer - Tests continue.

16. Flexowriter Replacement - The electrical service unit of the M-28/37 is being checked for new cabling and packaging assembly to meet Federal Standard 222. The completed model of the M-28/37 is expected by late September.

17. HW-28 - No change in status.

18. Filtron Shielded Enclosure Signal Line Filter Replacement - Drawings have been completed for the optical replacement. Procurement action will commence in the near future.

19. Automatic Message Numbering & Tandem Operation System - "AMNTOS" - Out of four companies solicited, [redacted] 25X1A5a1 25X1A5a1 [redacted] is the only one that bid this project. A prototype of this system is due in January 1967.

20. Test Message Generator, "Foxer", DT-105-FP - In the future, the now standard "foxer" (DT-105A) will be replaced with the DT-105-FP. (The "FP" stands for flat pack.) The new unit is designed to mount in a standard 19 inch rack and is only 3½ inches high. The DT-105A required an external mounting shelf which would accommodate 2 units and required 5½ inches of rack space. As before this "foxer" will continuously transmit an 80 character message consisting of "The Quick Brown Fox....." and station call sign.

21. Control Panel - CP-12 - The prototype has been received 25X1A5a1 from [redacted] and delivered to the [redacted] 25X1A5a1 25X1A5a1 [redacted] is presently installing the panel in the bottom of their Class 5 safe. After inspection and approval by Engineering, fifty panel/safe combinations will be purchased for KW-7 TWX and Field Station installations.

22. AC Operated Distortion Measuring Set - AC/DMS-1A-1 - A prototype of this unit will be received during the first week of September.

23. Single Channel KG-13/TTY - A design for an async/sync converter has been breadboarded and tested with very satisfactory results. Rixon is being contacted about an off-the-shelf async/sync code converter and prices are being obtained for manufacture of the breadboard design.

24. CAU Interface Unit - Rixon - A new KG-13 interface unit is being built for the Army by Rixon. The unit, designated CAU, appears to have all of the features of the HN-9A plus additional features, such as: Auto-sync, sync verification, Red to Black as well as Black to Red clock isolation, and an optinal Vocoder input module. The unit will accommodate two full duplex circuits, meets Mil. Std. 188B and Fed. Std. 222. This unit is being investigated for possible use in place of the HN-9A.

25. Technical Bulletin #141-1, Motor Charts - This TB provides a quick reference to all Teletype motors, their specifications, deminsions, and what equipment they may be used on. This TB has been distributed to all areas.

26. KW-26 Portable Installation Cables - Four sets of flexible conduit signal and A.C. cables were shipped to 25X1A6b [redacted] Each cable was preassembled with RF tight connectors and outlet box fittings. These cables will be used for short term KW-26 installations. Installation drawings were also included.

B. AREA ENGINEERING SECTION

25X1A6b 1. [redacted]

25X1A6a a. [redacted] New Receiver Building - The contract for this project is out for bids. Bids are scheduled to be opened 12 September 1966.

25X1A6a b. [redacted] Relay Station - Preliminary drawings were forwarded to the Field for review.

25X1A6a c. [redacted] Base Station - This project is in the A&E phase. The 50% review has been completed. Expect to complete A&E during the next reporting period. Preliminary drawings were forwarded to the Field for review.

25X1A6b 2. [redacted]

25X1A6b a. [redacted] Expansion of Receiver Site - The Real Estate and Construction Division, OL, has been requested to solicite bids for necessary A&E work involved with Station "D" expansion for MAX II installation.

25X1A6b 3. [redacted]

25X1A6b a. New [redacted] Receiver Site - Project at a standstill. Awaiting selection of a new receiver site.

25X1A6b 4. [redacted]

25X1A6b a. [redacted] Receiver Site Renovation - This project is in the A&E phase. Awaiting definitive drawings prior to proceeding with detailed planning.

[redacted] 25X1C4a

25X1A6a 5. [redacted] - Reviewed preliminary drawings and initial cost estimate prepared by the WASH civilian A&E consultant for the proposed new addition to the [redacted]. The 25X1A6a cost estimate amounts to $65,000 and represents only the

mechanical and electrical work for the [redacted] commo areas. 25X1C4a
The drawings and cost estimate have been submitted to O/BDC for review and approval prior to the consultant proceeding with final and detailed drawings.

25X1C4a

25X1A6a 6. [redacted] - Plans and drawings for a [redacted] 25X1C4a
[redacted] on equipment layout and space requirements. Another meeting was held with O/BDC on necessary work changes to be made to the parent room in order to accommodate the enclosure. The building is scheduled for completion in February 1967.

25X1A6a 7. [redacted] - O/BDC informs that they have completed the reviewing of the final set of A&E drawings on the new annex
25X1C4a addition to the [redacted] and have forwarded them, with their approval, to the [redacted] for final action 25X1C4a and funding. This new annex will contain a joint CCC enclosure in addition to other CAS offices.

25X1A6a 8. [redacted] - We are in the process of preparing a Bill of Material and installation drawings for the [redacted] 25X1C4a
25X1A6a basement comcenter and new transmitter building projects. [redacted] informs that they expect the [redacted] Basement 25X1C4a renovation work to be completed around the end of this year.

25X1A6a 9. [redacted] - This station submitted for review and planning purposes, A&E drawings of the new office annex being built within the [redacted] compound to house a new 25X1A6a comcenter and various CAS offices. Completion date for this addition is scheduled for the end of this year. In response to their request regarding the availability, technical guidance and information on a enclosure installation for this annex, we informed them that a enclosure was reprogrammed for FY-67 procurement and we will attempt to have it on-site for the scheduled completion date of the addition.

25X1A6a 10. [redacted] - In close liaison with [redacted] 25X1C4a preliminary drawings were prepared for a joint enclosure installation at this post. [redacted] will now forward 25X1C4a these drawings, equipment layouts and approximate comments to the post for review and approval.

25X1A6b [redacted]

25X1A6a 12. [redacted] New Transmitting Facility - The [redacted] Deputy 25X1A6b
Area Engineer attended a 30% review with [redacted] 25X1A5a1
A&E, on 15 August; his report indicated that the A&E is 10 to 14 days late on the project. As a result, the construction

Very Expensive $285 K ! with 10' Dishes

cost estimate, and the specifications for long lead-time procurement items (generators and switchgear), will not be delivered until 1 September.

25X1A6a In order to provide for the possibility of meeting SERP requirements at the [redacted] transmitter site, we have initiated
25X1A6a an investigation of design and cost parameters for a tropospheric scatter link between [redacted], as well as a propagation study of the possibility of using HF for link limited to a few keylines.

No Good, (HC)

The drawings being prepared at Headquarters have progressed on schedule during the past month; their status may be summarized as follows:

a. 24 drawings completed
b. 9 drawings awaiting final A&E design in order to receive final revisions
c. 4 drawings awaiting detailed design information 25X1A5a1 from [redacted]
d. 1 drawing awaiting final standardization requirements of Headquarters' Engineering Staff
e. 6 drawings not yet started

We plan a total of 44 drawings; the completion of the entire set of drawings is dependent on the receipt of final A&E design, and the extent of SERP planning.

13. Specifications have been completed for a 175 KW flywheel type no-break power unit for [redacted] Invitation for bids should be initiated by mid September. 25X1A6b

14. The progress on the 40 KW hydraulic no-break unit
25X1A6a for [redacted] has reached a standstill. The manufacturer progress report, which was requested on 29 July 1966, became lost within the agency but has since been located and is being routed to this office. Recent telecons with the manufacturer indicated that a definite decision as to the final course of action will be forthcoming by 12 September.

15. Much time has been spent assisting T&I in solving many problems with the 8-PAC generating units.

25X1A5a1 16. The 30 KW generator sets have been received by [redacted] 25X1A5a1 and they are in the process of making required modifications.

17. The instruction manuals for 50 KW CAPCO and 25 KW ONAN generator sets have been received and copies will be forwarded to stations that already have these units.

18. A trip was made to [redacted] to discuss the possibility of including presently used diesel generators in the training program. 25X1A6b

19. The high speed power transfer switch was successfully tested and delivered to the depot.

20. Three trips were made to [redacted] for in-plant inspection of shielded enclosures. 25X1A5a1

C. RADIO EQUIPMENT AND SYSTEMS SECTION

25X1A6a 1. [redacted] - The PT 150/400 [redacted] 25X1A5a1 system has been installed and is operational between the R and T sites. As telephone land lines are not suitable for carrier transmission between the [redacted] and our T sites, an effort is being made to utilize existing co-axial cables between sites with matching transformers. These have been ordered for shipment. 25X1A3b

25X1C1a1 [redacted]

25X1A5a1

25X1A6b 3. [redacted] Link - Interim [redacted] equipment was received and the link was activated 1 August. [redacted] equipment delivery is still on schedule, anticipated for October. 25X1A5a1

25X1A6a 4. [redacted] Microwave Link - A request has been made for procurement of necessary items to provide a secure (KY-3) communications link between [redacted] 25X1A6a Later information has revelaed that a passive relay station 25X1A6a [redacted] is required to overcome a path obstruction; fortunately, the systems gain is sufficient to meet the additional path loss.

5. 8-PAC and ATF - Electronic spare parts for both 8-PAC and ATF were ordered. These are being provided in sufficient quantities to permit 30 to 60 days rear echelon logistical support. A [redacted] representative visited the 25X1A6 [redacted] to assess damages and faults (rain leakage) around the Air Condx Mounting. 25X1A5a1 to the shelters and transporting equipment. One 8-PAC and four ATF's are in T&I.

25X1A2d1 6. [redacted] - [redacted] was requested to procure a 51S-1 receiver with dial lock. They were also requested to advise where the boat will be available (and when) for Commo Engineering personnel to make the installation. The receiver is required to conform to FCC licensing requirements. 25X1A8a

7. SELCAL - Field-to-Base - Chief, OC-O, has indicated that CSR (RTTY) method of operation is preferable and will discuss the requirements in his forthcoming African visit. We are procuring equipment to initially test this system locally. Residence Alarm Equipment will be obtained to try the use of available low-powered transceivers equipped with selective tone activation. Presently installed base-to-field SELCAL decoder will operate VHF (or CB) transmitter at the field radio station which will activate aural and visual alarms through a compatible receiver at the operator's home. Portability of the residence equipment is a requirement.

8. Medium Speed System - [redacted] is presently designing a converter to adapt the IF output of the [redacted] RA117 receiver to frequencies compatible to magnetic tape recording equipment. 25X1A5a1 25X1A5a1

9. Equipment

a. Equipment has been requisitioned for a J&B evaluation of "Shot-Gun MUX" operation; some items were not immediately available and have been obtained by borrowing from other Commo users.

25X1A5a1 b. [redacted] automatically-tuned band-pass receiving filters (2) were received for evaluation but cannot be used as they are designed for airborne operation. [redacted] 25X1A5a1 has advised fixed plant type filters are being provided for exchange with mounting shelves for proper interconnection cabling and built-in air blower operation. These filters operate between 2-30 MHz permitting normal HF receiver operation in the presence of strong RF fields up to 1000V RMS at frequencies removed 10% from the nominal operating frequency. Bandwidth is 12 KHz to -1 db points.

c. A TMC multi-mode transmitting exciter prototype is nearing completion and is expected to be available for evaluation in late September or early October.

d. Two of four specially designed "Echoplex" units have arrived. This is speech processing equipment and provides voice privacy (not secrecy) via radio transmission. Preliminary tests indicate it performs as expected. Two of these units will be evaluated by OC-OS and one each by OC-S and Engineering. It is hoped that this equipment will meet [redacted] requirements. 25X1A6b

10. Modification Work Orders

a. Engineering Modification Work Order No. 102-2 (corrections to original TMC PAL-350 Linear changes to

provide Class C operation) is still undergoing tests and revisions. A current problem is no meter indication of grid drive from 26 to 30 mc.

25X1A5a1 b. Many modifications to the SBE-2 SSB exciter have been incorporated by [redacted] in new units being accepted by T&I. However, attempts to obtain a satisfactory MWO from the manufacturer to permit revising our many in-field SBE's have been frustrating. Hopefully, the last block (3rd order distortion products increase after modification) is being overcome.

11. Technical Bulletin - A comprehensive bulletin (TB No. 144) has been prepared which describes the many methods of determining the characteristics of fixed capacitors. This should be most useful to our techs.

12. Tri-Services Receiver — Replacement for R-390

a. Commercial bids have been received for the design of a general purpose HF communications receiver conforming to specifications. The Army is currently deciding which company(s) will be awarded a contract. Initially, fifty units will be produced for approval.

b. The Marine Corps has awarded a contract to the National Radio Co. for production of prototypes of a similar receiver (AN/GPR-17) to meet their specific requirements. We will attempt to obtain one of these when available for our evaluation.

25X1A6a

13. [redacted] RESS Shop - AN-59, ATS-50 and VRA-6 antennas have been installed on the roof. ATS-50 remote control cable connectors are on order; when these are installed, the antenna installation will be completed.

25X1A6a

14. [redacted]-Washington Secure Voice Circuit - To provide an extension telephone handset off the [redacted] terminal of the HY-2/KG-13 circuit, special interface equipment was provided and shipped to [redacted] 25X1A6a 25X1A6a

D. ATTACHMENT

TDY Report